

## ***Indicator 17: Occupational Health and Safety Professionals***

### **Significance<sup>i</sup>**

Physicians with training and/or special interest in occupational medicine provide primary, secondary and tertiary occupational health preventive services. In 1989, the American Medical Association recommended that there be one occupational health physician for every 1,000 employees. Occupational health nurses provide a great deal of onsite occupational health care. Industrial hygienists and safety professionals are typically the primary individuals responsible for evaluating workplaces and making recommendations to prevent occupational injuries and illnesses.

Occupational safety and health professionals prevent workplace injuries and illnesses through exposure/hazard identification and prevention. An adequate number of professionals in the fields of occupational medicine, occupational health nursing, industrial hygiene and safety are needed to ensure safe workplaces.

### **Methods**

The number of professionals and rate per 100,000 employees in Colorado for 2003 to 2008 are reported using data from the American College of Occupational and Environmental Medicine (ACOEM), American Association of Occupational Health Nurses (AAOHN), American Industrial Hygiene Association (AIHA), American Society of Safety Engineers (ASSE) and Bureau of Labor Statistics (BLS) Current Population Survey (CPS). The BLS CPS data on employment numbers are used to calculate rates.

### **Data Sources**

State and United States data provided by the Council of State and Territorial Epidemiologists (CSTE), calculated using the following:

- American Board of Preventive Medicine (ABPM) diplomats database ([www.abprevmed.org](http://www.abprevmed.org)) (numerator)
- Annual roster of members of the American College of Occupational and Environmental Medicine (ACOEM) ([www.acoem.org](http://www.acoem.org)) (numerator)
- American Board of Occupational Health Nurses (ABOHN) Directory ([www.abohn.org](http://www.abohn.org)) (numerator)
- Annual roster of members of the American Association of Occupational Health Nurses (AAOHN) member directory ([www.aaohn.org](http://www.aaohn.org)) (numerator)
- American Board of Industrial Hygiene (ABIH) ([www.abih.org](http://www.abih.org)) (numerator)
- American Industrial Hygiene Association (AIHA) member directory ([www.aiha.org](http://www.aiha.org)) (numerator)
- Board Certified Safety Professionals (BCSP) member directory ([www.bcsp.org](http://www.bcsp.org)) (numerator)
- American Association of Safety Engineers (ASSE) member directory ([www.asse.org](http://www.asse.org)) (numerator)
- Bureau of Labor Statistics (BLS) Current Population Survey Data (CPS) (denominator)

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<sup>i</sup> Council of State and Territorial Epidemiologists. *Occupational Health Indicators: A Guide for Tracking Occupational Health Conditions and Their Determinants*. Last updated April 2012.

## Results

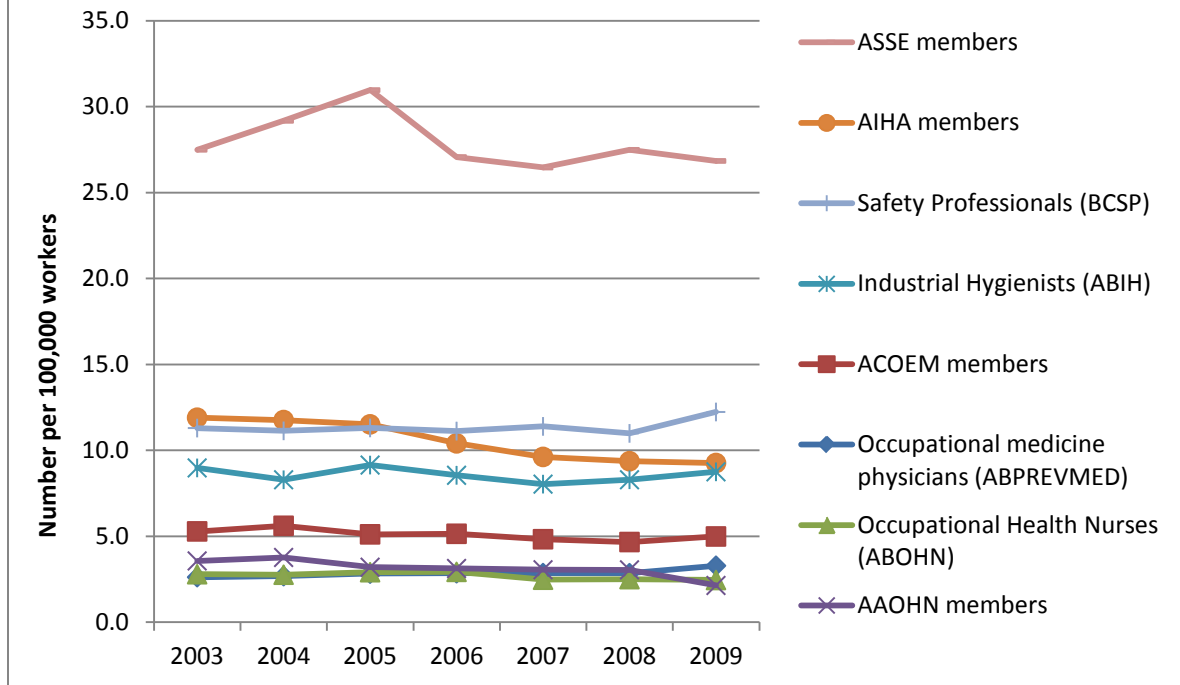
**Table 17.1: Occupational safety and health professionals, Colorado, 2003-2009**

	Number (Rate per 100,000 employed)							
	2003	2004	2005	2006	2007	2008	2009	Average
<b>Occupational Medicine Physicians from the American Board of Preventive Medicine (ABPM)</b>	61 (2.6)	64 (2.7)	68 (2.8)	72 (2.9)	74 (2.9)	74 (2.9)	83 (3.3)	71 (2.9)
<b>American College of Occupational and Environmental Medicine (ACOEM) Members</b>	123 (5.3)	134 (5.6)	123 (5.1)	130 (5.2)	125 (4.8)	121 (4.7)	126 (5.0)	126 (5.1)
<b>Certified Occupational Health Nurses from the American Association of Occupational Health Nurses (AAOHN)</b>	65 (2.8)	66 (2.8)	70 (2.9)	74 (3.0)	64 (2.5)	65 (2.5)	62 (2.5)	67 (2.7)
<b>American Association of Occupational Health Nurses (AAOHN) Members</b>	83 (3.6)	90 (3.8)	77 (3.2)	79 (3.2)	79 (3.1)	79 (3.1)	54 (2.1)	77 (3.1)
<b>Certified Industrial Hygienists from the American Board of Industrial Hygienists (ABIH)</b>	209 (9.0)	198 (8.3)	220 (9.2)	216 (8.6)	215 (8.1)	215 (8.3)	221 (8.7)	212 (8.6)
<b>American Industrial Hygiene Association (AIHA) Members</b>	277 (11.9)	281 (11.8)	277 (11.5)	263 (10.5)	243 (9.7)	243 (9.4)	234 (9.3)	261 (10.5)
<b>Board Certified Safety Professionals from the Board of Certified Safety Professionals (BCSP)</b>	263 (11.3)	266 (11.1)	272 (11.3)	281 (11.2)	287 (11.4)	285 (11.0)	309 (12.2)	282 (11.4)
<b>American Association of Safety Engineers (ASSE) Members</b>	640 (27.5)	697 (29.2)	745 (31.0)	684 (27.4)	685 (26.55)	713 (27.5)	678 (26.8)	692 (27.9)

*Numerators: American Board of Preventive Medicine (ABPM), American College of Occupational and Environmental Medicine (ACOEM), American Board of Occupational Health Nurses (ABOHN), American Association of Occupational Health Nurses (AAOHN), American Board of Industrial Hygiene (ABIH), American Industrial Hygiene Association (AIHA), American Society of Safety Engineers (ASSE), Board Certified Safety Professionals (BCSP)*

*Denominator: Bureau of Labor Statistics Geographic Profile of Employment/Unemployment (GP) or Current Population Survey (CPS)*

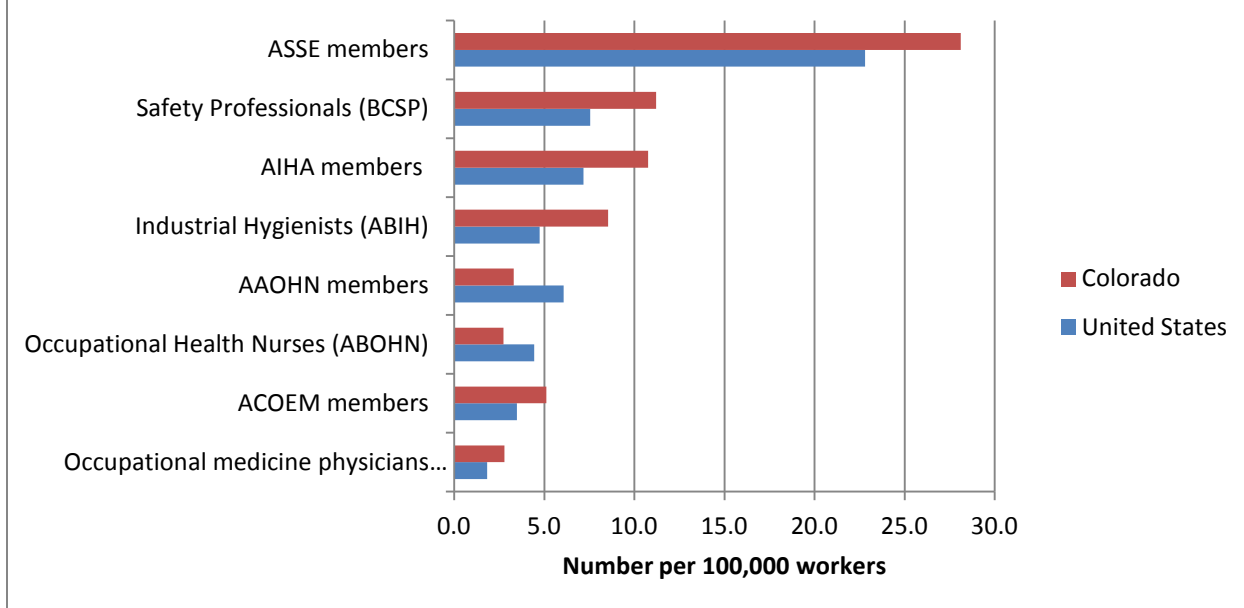
**Figure 17.1: Annual number of occupational safety and health professionals per 100,000 workers, Colorado 2003-2009**



Numerators: American Board of Preventive Medicine (ABPM), American College of Occupational and Environmental Medicine (ACOEM), American Board of Occupational Health Nurses (ABOHN), American Association of Occupational Health Nurses (AAOHN), American Board of Industrial Hygiene (ABIH), American Industrial Hygiene Association (AIHA), American Society of Safety Engineers (ASSE), Board Certified Safety Professionals (BCSP)

Denominator: Bureau of Labor Statistics Geographic Profile of Employment/Unemployment(GP) or Current Population Survey (CPS)

**Figure 17.2: Average annual number of occupational safety and health professionals, Colorado and United States\*, 2003-2008**



*Numerators: American Board of Preventive Medicine (ABPM), American College of Occupational and Environmental Medicine (ACOEM), American Board of Occupational Health Nurses (ABOHN), American Association of Occupational Health Nurses (AAOHN), American Board of Industrial Hygiene (ABIH), American Industrial Hygiene Association (AIHA), American Society of Safety Engineers (ASSE), Board Certified Safety Professionals (BCSP)*

*Denominator: Bureau of Labor Statistics Geographic Profile of Employment/Unemployment(GP) or Current Population Survey (CPS)*

*\*Currently, U.S. level data only available through 2008*

### Limitations

- Other occupational safety and health fields are not included, such as health physics, ergonomics and occupational health psychology.
- Member lists include retired and part-time professionals and may not be mutually exclusive (i.e., members of the AIHA may also be members of ASSE). These factors may result in an overestimate of the number of active occupational health and safety professionals.

### Recommendations and Next Steps

- Increase the number of students in the occupational safety and health field who are trained and employed in Colorado. The Mountain and Plains Education and Research Center (MAP ERC) at the University of Colorado, School of Public Health, is an important partner in this effort. Colorado has far less than the recommended number of occupational health physicians per employed workers.
- Explore methods to summarize the financial benefits of investing in occupational health and safety professionals to ensure a stable and healthy workforce at every level.